

Amendments to the claims:

1. (Currently Amended) A method of determining a position of an unknown point in space using at least two cameras aimed to have a substantially overlapping field of view, comprising the steps of,

generating in each of said cameras an image corresponding to at least four points lying in a reference plane, the reference plane being common to the respective images of the cameras;

calculating a planar projective transform that maps said images of said at least four points to a reference frame, said reference frame being a projection of said reference plane;

generating, in each of said cameras, images of at least two calibration markers whose positions relative to said reference plane are known and an image of an unknown point;

for each of said images of said at least two calibration markers and said image of an unknown point, applying said transform to define respective points in the reference frame ~~a plane of said image~~; and

computing at least a distance of said unknown point from said reference plane ~~responsively to at least a depth of said unknown point and coordinates of said unknown point and said at least two points transformed into~~ said points defined in said reference frame for said markers and said unknown point.

2. (Currently amended) A method as in claim 1, wherein said step of computing includes computing a distance of said unknown point from said reference plane responsively to positions of said calibration markers ~~points~~.

3. (Currently Amended) A method as in claim 2, wherein said positions indicate a distance of said calibration markers ~~points~~ from said reference plane.

4. (Currently Amended) A method as in claim 1, wherein said step of generating said image of said calibration markers includes positioning said calibration markers in said overlapping field of view.

5. (Original) A method as in claim 4, wherein said step of positioning includes extending a boom with said markers.

6. (Currently amended) A method as in claim 1, wherein said position of each calibration markers includes only a distance from said reference plane.

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can't 7. (Currently amended) A strap-down three-dimensional reconstruction system, comprising:

a jig supporting at least two cameras;

said jig having a structure to support at least two calibration markers in a position to be substantially visible by said at least two cameras; and

said jig also supporting at least four reference markers in a visual field of each of said at least two cameras, all of said reference markers lying in a common plane;

~~wherein said at least two cameras are used to determine a position of an unknown point in space according to the method of claim 1.~~

8. (Original) A system as in claim 7, wherein said four reference markers are corners of an aperture in a screen of said jig.

9. (Original) A system as in claim 7, wherein said four reference markers are projected onto a screen.

10. (Original) A system as in claim 7, further comprising an image processing

computer connected to receive said images from said cameras and programmed to calculate a position of a point visible in each of said cameras responsively to position data corresponding to said calibration markers.

11. (Currently amended) A method of determining a position of an unknown point in space using at least two cameras aimed to have a substantially overlapping field of view, comprising the steps of,

generating in each of said cameras an image corresponding to at least four points lying in

BI a reference plane, the reference plane being common to the respective images of the cameras;

CON-1 calculating a planar projective transform that maps said images of said at least four points to a reference frame, said reference frame being a projection of said reference plane;

generating, in each of said cameras, images of at least two calibration markers whose positions relative to said reference plane are known;

transforming, by said planar projective transform, each of said images of calibration markers;

computing optical centers of said cameras responsively to a result of said step of transforming;

generating in each of said cameras an image of an unknown point and calculating a position of said unknown point responsively to a result of said step of computing.

12. (Original) A method as in claim 11, wherein said step of calculating includes transforming said images of said unknown point using said planar projective transform.

13. (Currently cancelled)

14. (Currently cancelled)

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15. (Currently cancelled)

16. (Currently cancelled)
